

(FILE 'HOME' ENTERED AT 16:25:34 ON 28 DEC 2000)

FILE 'CAPLUS, USPATFULL' ENTERED AT 16:25:46 ON 28 DEC 2000

L1	319 S (FORM# OR FORMING) (1W) (SULFONIC ACID)
L2	63903 S PHOTORESIST
L3	20 S L1 AND L2
L4	77 S (DECOMPOSE# OR DECOMPOSING) (5A) (SULFONIC ACID)
L5	12 S L2 AND L4
L6	19494 S (SULFONIC ACID)/AB
L7	19937 S PHOTORESIST/AB
L8	253 S L6 AND L7

() *defined above*

AH 1-3

Goodrell

9 - But Aul + ethylacryl.

10, 11

$R_{13}-R_{16} = \text{acid cleav} + \text{Butyl group}$

HH

12- Benz compd.

obj 184

DOCUMENT-IDENTIFIER: US 6017677 A
TITLE: Planographic printing plate

ABPL:

The present invention provide a planographic printing plate comprising a substrate having thereon a recording layer which comprises at least one of a polymer compound carrying on a side chain a functional group which generates **sulfonic acid** under influence of an acid, base or heating; and a photo acid-generating agent or acid-generating agent; thermal base-generating agent; or an infrared ray absorbing agent, and by this structure, a high sensitive positive type planographic printing plate which can be developed with water or requires no developing is provided.

CLPR:

1. A planographic printing plate comprising a substrate having thereon a recording layer containing a photo acid-generating agent and a polymer compound carrying on a side chain a functional group which generates **sulfonic acid** in the presence of an acid selected from a group consisting of the following formulae (1) and (2):

CLPR:

2. A planographic printing plate comprising a substrate having thereon a recording layer containing a thermal base-generating agent and carrying on a side chain a functional group which generates **sulfonic acid** in the presence of a base selected from a group consisting of the following formulae (1) to (3):

CLPR:

4. A planographic printing plate comprising a substrate having thereon a

United States Patent

Maemoto et al.

Patent Number: 6,017,677
Date of Patent: Jan. 25, 2000

(54) PLANOGRAPHIC PRINTING PLATE

(75) Inventors: Masao Maemoto; Kazuki Kawamura; Kazuo Kikuchi; Fumiharu Kobayashi, all of Shimizu-shi, Japan

(73) Assignee: Fuji Photo Film Co., Ltd., Shimizu-shi, Japan

(21) Appl. No.: 09/116,544

(22) Filed: Jan. 23, 1998

(30) Foreign Application Priority Data

JP 55, 1997	NO	4-000000
JP 56, 1997	NO	4-000000
JP 57, 1997	NO	4-000000

(51) Int. Cl. G03F 7/00

(52) U.S. Cl. 430/270.1; 430/270.1; 430/270.1; 430/270.1

(53) Field of Search 430/270.1; 430/270.1; 430/270.1; 430/270.1

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41-257193 12/1998 Japan

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Planet Abstracts of Japan, vol. 839, No. 234 (45-48), Nov. 20, 1995 and JP 60 182700 A (AOKI KAZUO KOUYO KK, Jul. 15, 1995) abstract.

Primary Examiner—David Baker
Assistant Examiner—Rosemary Acheson
Attorney, Agent, or Firm—Baker, Dutton & Mach, LLP

ABSTRACT

The present invention provides a planographic printing plate comprising a substrate having thereon a recording layer which comprises at least one of a polymer compound carrying on a side chain a functional group which generates **sulfonic acid** under influence of an acid, base or heating, and a photo acid-generating agent or acid-generating agent; thermal base-generating agent; or an infrared ray absorbing agent, and by this structure, a high sensitive positive type planographic printing plate which can be developed with water or requires no developing is provided.

1 Claim, No Drawings

DOCUMENT-IDENTIFIER: US 6017677 A
TITLE: Planographic printing plate

ABPL:

The present invention provide a planographic printing plate comprising a substrate having thereon a recording layer which comprises at least one of a polymer compound carrying on a side chain a functional group which generates sulfonic acid under influence of an acid, base or heating; and a photo acid-generating agent or acid-generating agent; thermal base-generating agent; or an infrared ray absorbing agent, and by this structure, a high sensitive positive type planographic printing plate which can be developed with water or requires no developing is provided.

CLPR:

1. A planographic printing plate comprising a substrate having thereon a recording layer containing a photo acid-generating agent and a polymer compound carrying on a side chain a functional group which generates sulfonic acid in the presence of an acid selected from a group consisting of the following formulae (1) and (2):

CLPR:

2. A planographic printing plate comprising a substrate having thereon a recording layer containing a thermal base-generating agent and carrying on a side chain a functional group which generates sulfonic acid in the presence of a base selected from a group consisting of the following formulae (1) to (3):

CLPR:

4. A planographic printing plate comprising a substrate having thereon a

By: Fuji Photo Film Co., Ltd.,
Minami-Ashigara, Japan

File: 09/012,596

Jan. 23, 1998

Foreign Application Priority Data

[JP]	Japan	9-010755
[JP]	Japan	9-026877
[JP]	Japan	9-026878
[JP]	Japan	9-036665

G03C 1/492

430/270.1; 430/302; 101/457

Search 430/270.1, 302, 101/456, 467

References Cited

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3/1998	Kawamura et al.	430/176

Patent Abstracts of Japan, vol. 009, 20, 1985 and JP 60 132760 A (AS KK), Jul. 15, 1985 "abstract".

Primary Examiner—Janet Baxter
Assistant Examiner—Rosemary Ash
Attorney, Agent, or Firm—Burns Mathis, LLP

[57] ABSTRACT

The present invention provide a plan comprising a substrate having thereon which comprises at least one of carrying on a side chain a functional sulfonic acid under influence of an acid, a photo acid-generating agent or thermal base-generating agent; or an agent, and by this structure, a high planographic printing plate which water or requires no developing is provided.

9 Claims, No Drawings

DOCUMENT-IDENTIFIER: US 6007964 A
TITLE: Planographic original plate

ABPL:

In the general formula (2), W.sup.1 represents a group which is decomposed by an acid and selected from an ester group, a ketal group, a thioketal group, an acetal group and a tertiary alcohol group. L represents a polyvalent linking group comprising a non-metallic atom, which is necessary for linking the structural unit which is represented by the general formula (2) to a polymer skeleton, and whose decomposition accompanies the decomposition of W.sup.1, which is decomposed by an acid, to generate **sulfonic acid**.

CLPV:

wherein, in the general formula (2), W.sup.1 represents a group which is decomposed by an acid and is selected from an ester group, a ketal group, a thioketal group, an acetal group and a tertiary alcohol group, and L represents a polyvalent linking group comprising a non-metallic atom, which is necessary for linking the structural unit which is represented by the general formula (2) to a polymer skeleton, and whose decomposition accompanies the decomposition of W.sup.1, which is decomposed by an acid, to generate **sulfonic acid**;

CCXR:

430/270.1

Co: Fuji Photo Film Co., Ltd.,
Minami-Ashigara, Japan

No.: 09/050,890

Mar. 31, 1998

Foreign Application Priority Data

[JP]	Japan	9-085328
[JP]	Japan	9-089451
[JP]	Japan	9-089816

G03F 7/004; G03F 7/09;
G03C 1/72; G03C 1/77
430/280.1; 430/283.1; 430/287.1; 430/944
Search 430/270.1, 280.1,
430/287.1, 283.1, 944, 278.1, 914, 920,
921, 924, 925

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4/1993 Aoi et al. 430/270.1

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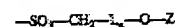
Polysiloxane Formation at the Irradiated Surfaces Containing Both Photoacid Generating Units—European Polymer Journal, vol. 33, 55-1262 (1997).

Japanese Patent Application, Publication No. Yoshitaka, Apr. 2, 1988.

Japanese Patent Application, Publication No. Sugio, Oct. 23, 1988.

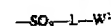
Chemical Abstracts of Japan, vol. 013, No. 073, (P-830), Feb. P 63 257750A (Oji Paper Co. Ltd.), Oct. 25,

water-developed or can be used directly in a developing process. This objective planographic original plate comprises a photosensitive layer which is supported on a substrate which contains a polymeric compound chain at least one structural unit selected from the group represented by the general formula (1)



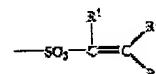
In the general formula (1), L represents a group composed of a non-metallic atom group which is decomposed by an acid and is O or I.

General Formula (2)



In the general formula (2), W¹ represents a group decomposed by an acid and selected from an ester group, a thioketal group, an acetal group, a tertiary alcohol group, and L represents a group comprising a non-metallic atom, linking the structural unit which is represented by the general formula (2) to a polymer skeleton, and whose decomposition accompanies the decomposition of W¹, which is decomposed by an acid, to generate **sulfonic acid**;

General Formula (3)



In the general formula (3), R¹ to R³ are different, and each represents a

DOCUMENT-IDENTIFIER: US 6042987 A
TITLE: Negative type image recording material

ABPL:

A negative type image recording material which is capable of effecting direct plate making by recording using a solid-state laser or semiconductor laser emitting an infrared-ray based on digital signals outputted from computers or the like, having components (A) to (E) which are more specifically a compound

(A) which is degraded by the action of light or heat to generate an acid such as **sulfonic acid** or the like, a cross-linking agent

(B) which has preferably two or more hydroxymethyl groups or alkoxymethyl groups, bonded to a benzene ring, which contains 3 to 5 benzene nuclei in the molecule, and which is cross-linked in the presence of an acid, such as a phenol derivative having a molecular weight of not greater than 1,200, at least one kind of alkali-soluble resin (C), an infrared absorbing agent (D), and organic basic compound (E) such as guanidine, aminomorpholine, pyridine and the like, or at least one compound selected from amino acids such as phenylalanine, tyrosine, alanylalanine, N-phenyl-beta-alanine, nicotinic acid and the like and derivatives thereof.

CCOR:

430/270.1



United States Patent (19)
Kobayashi

(31) Patent Number: 6,042,987
(35) Date of Patent: Mar. 28, 2000

(54) NEGATIVE TYPE IMAGE RECORDING MATERIAL

(57) Invention: Fumihiko Kobayashi, Shimizu-ken, Japan

(58) Assignee: Fujifilm Photo Co. Ltd., Minami-Ashigara, Japan

(61) Appl. No.: 08/949,797

(62) P66: Oct. 14, 1997

(63) Foreign Application Priority Data

Oct. 18, 1995 (JP) 1995-373492

Oct. 23, 1995 (JP) 1995-373492

(64) Int. Cl. C09D 11/00

(65) U.S. Cl. 430/270.1; 430/271; 430/272

(66) Field of Search 430/270.1, 430/271, 430/272

(67) References Cited

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A. Lippert, et al. Chemically Amplified Resists in Solid State Technology, Aug. 1994, pp. 43-45.

Primary Examiner—Cynthia Hamilton
Assistant Examiner—Beverly A. Jones
Attorney, Agent, or Firm—Barnes, Dorian, & Mott, LLP

(57) ABSTRACT

A negative type image recording material which is capable of effecting direct plate making by recording using a solid-state laser or semiconductor laser emitting an infrared-ray based on digital signals outputted from computers or the like, having components (A) to (E) which are more specifically a compound (A) which is degraded by the action of light or heat to generate an acid such as sulfonic acid or the like, a cross-linking agent (B) which has preferably two or more hydroxymethyl groups or alkoxymethyl groups, bonded to a benzene ring, which contains 3 to 5 benzene nuclei in the molecule, and which is cross-linked in the presence of an acid, such as a phenol derivative having a molecular weight of not greater than 1,200, at least one kind of alkali-soluble resin (C), an infrared absorbing agent (D), and organic basic compound (E) such as guanidine, aminomorpholine, pyridine and the like, or at least one compound selected from amino acids such as phenylalanine, tyrosine, alanylalanine, N-phenyl-beta-alanine, nicotinic acid and the like and derivatives thereof.

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754222 04/97 European Pat. Off.

10 Claims, No Drawings

Details

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Details

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USPT	l3 and l4	92	<u>L5</u>
USPT	photoresist or resist.ab.	48881	<u>L4</u>
USPT	l1 and l2	119	<u>L3</u>
USPT	generat\$3 adj5 (sulfonic adj1 acid)	200	<u>L2</u>
USPT	compound adj10 generat\$3	14896	<u>L1</u>

WEST**End of Result Set**

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L2: Entry 2 of 2

File: DWPI

Sep 25, 1998

DERWENT-ACC-NO: 1998-572567

DERWENT-WEEK: 200039

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TITLE: Radiation sensitive resin composition processed using e.g. electron beam - comprising resin becoming acid soluble on cleaving acid gp., agent generating acid on irradiation and solvent

PRIORITY-DATA:

1997JP-0074717

March 12, 1997

PATENT-FAMILY:

PUB-NO

PUB-DATE

LANGUAGE

PAGES

MAIN-IPC

JP 10254139 A

September 25, 1998

N/A

026

G03F007/039

INT-CL (IPC): G03F 7/004; G03F 7/039; H01L 21/027

ABSTRACTED-PUB-NO: JP 10254139A

BASIC-ABSTRACT:

A radiation sensitive resin composition includes (A) a resin composed of alkali insoluble or alkali slightly soluble acid cleavage gp-containing resin having an alicyclic structure in a main chain and/or a side chain, and becoming alkali soluble when the acid cleavage gp is cleaved, (B) a radiation sensitive acid generating agent generating acid by irradiation and (C) a solvent compose of a mixture of a straight chained ketone, and at least one kind of circular ketone, propylene glycol monoalkylether acetate, and alkyl 2-hydroxypropionic acid.

USE - Effectively used in the fine processing using far UV such as ArF excimer laser, X-ray such as synchrotron radiation, a charged particle beam such as electron beam, or the like.

ADVANTAGE - High transparency to radiation, dry etching resistance, uniform film thickness

WEST

Generate Collection

L2: Entry 1 of 2

File: JPAB

Sep 25, 1998

PUB-NO: JP410254139A

DOCUMENT-IDENTIFIER: JP 10254139 A

TITLE: RADIATION SENSITIVE RESIN COMPOSITION

PUBN-DATE: September 25, 1998

INVENTOR-INFORMATION:

NAME

SUWA, MITSUFUMI

IWAZAWA, HARUO

KAJITA, TORU

IWANAGA, SHINICHIRO

INT-CL (IPC): G03F 7/039; G03F 7/004; G03F 7/004; H01L 21/027

ABSTRACT:

PROBLEM TO BE SOLVED: To obtain a resist pattern excellent in radiation transmitting property and dry etching resistance by incorporating a specified resin, a radiation sensitive acid producing agent and a solvent mixture of straight chain ketone with cyclic ketone, etc.

SOLUTION: This radiation sensitive resin compsn. contains an alkali-insoluble or slightly alkali-soluble resin having an alicyclic skeleton in the principal chain and/or a side chain, contg. acid-cleavable groups and convertible into an alkali-soluble resin when the groups are cleaved, a radiation sensitive acid generating agent that produces an acid when irradiated and a solvent mixture of straight chain ketone with at least one selected from among cyclic ketone, propylene glycol monoalkyl ether acetate and alkyl 2-hydroxypropionate. A resist pattern excellent in uniformity in film thickness, adhesiveness to the substrate, sensitivity, resolution, etc., can be formed.

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